PP- 1 Partner with SUASCO

SuAsCo Watershed Community Council

Greetings Stormwater Community Assistance Program Towns:

Our production of the stormwater materials for this year is going very well, but a little behind schedule. I anticipate delivering the year 2 materials to all subscribing towns during the week of January 24. I apologize for the slight delay. Please let me know if you have any difficulty with this timing change.

The year 2 materials consist of:

2 umbrellas - the stormwater surveys from your town that were mailed to the Council that you can use for your umbrella raffles an invoice for this year's stormwater program

for outreach & education control measure: 5 hard copies of a "stormwater matters lesson plan" geared to 5th and 6th grade including 5 large, laminated maps of your town, and 5 large, laminated maps of the State which indicate the major watersheds of MA - the master lesson plan will take one period (45 minutes) to teach; background information for the teacher and homework exercises are also included, as well as supplemental lesson ideas for teachers who want to go further with the material

for participation & public involvement control measure: a stormwater poster contest for 5th and 6th graders - the rules for the poster contest will be included with the master lesson plan and will also be posted on the SuAsCo website and will be available to put up on your town website if so desired - receipt of the poster entries and judging is the town's responsibility - we recommend that a panel of judges be assembled such as the town stormwater committee - the contest entry deadline will be in early May so that entries can be judged and all winners can be announced before school recesses for summer

Between now and the week of January 24, there are some steps you can take so that when you receive the stormwater materials you can begin implementation promptly.

1) If you can make contact now with your school officials to let them know that this material is coming, when you receive the materials at the end of January, you'll know who to pass them on to and the schools will be forewarned and ready to use them.

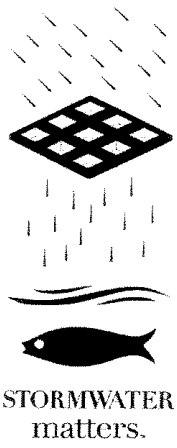
2) For the poster contest, please send me the name and contact info for the individual to whom students in your town should send their poster entries. In most towns, this individual will probably be the town stormwater coordinator.

Thank you very much for sending me the info above by Jan. 6 or earlier.

Nancy Bryant
SuAsCo Stormwater Community Assistance Program
978-461-0735

PP-2 Stormwater Educational Boards – Town Meeting

PP-3 Stormwater Poster Contest



STORMWATER POSTER CONTEST RULES

Who can enter: 5th and 6th grade students in participating communities. To check if your community is involved in the contest, please visit the SuAsCo Watershed Community Council website at **www.suasco.org** for a full list of participating communities.

Poster theme: Create a poster that conveys the message: **"Stormwater Matters"**

Poster size: No smaller than 8½"x11" and no larger than 14"x22"

Artwork must be original and done only by the student: Any art medium is acceptable, including charcoal pencil, crayons, colored markers, watercolors and paints

Posters will be judged on: Clarity and persuasiveness of message, quality of work, creativity, compliance with the contest guidelines

Judges: Posters will be judged by a community panel that will select a first, second and third place winner.

Contest participant recognition: All poster entries will be displayed in a community location with recognition of first, second and third place winners. First, second and third place winners will receive an award certificate. All first place posters will be displayed on the SuAsCo Watershed Community Council website at www.suasco.org. Check with your community representative below for full award details.

Entry submission guidelines: On a label supplied by your teacher or on a 4" x 6" index card, neatly print the information below and tape the label or index card firmly to the back of the poster in the upper right hand corner:
Name
Grade level
Teacher's name
School name
School address
School phone number

Entry deadline: May 16, 2005
Poster must be mailed or hand-delivered to your community representative as listed below, or teachers may collect the poster entries and submit them for the students to the community representative by contest deadline.

Community Representative for Acton: Doug Halley, Health Director, 472 Main Street, Acton, MA 01720; (978-264-9634)

PP-4 Stormwater Educational Boards Town Hall

PP-5 Stream Identification Signs

STREAM TEAM IMPLEMENTATION AWARDS
IN THE MYSTIC, WESTFIELD AND CHICOPEE WATERSHEDS

PREVIOUS YEARS PROJECTS

STREAM TEAM IMPLEMENTATION AWARDS 2004

Acton: Stream Sign Awareness Project
The Acton Stream Team's Stream Sign Awareness Project resulted in the installation of 26 signs along the roads of Acton, directing attention to the brooks running underneath. The project leveraged over $4,200 from local partners, including extensive in-kind services, and created better partnerships with local businesses and the town. While the official dedication ceremony for the project was not until September, many community members had already taken notice of the signs, including the town Selectmen who remarked, "As you are aware, most people do not know the names of the various streams in the town and the smaller crossings are often not even apparent to motorists…with these new signs, these resources are not only evident, they even have names. The Board is certain that this program has raised (and will continue to raise) the awareness level for everyone in the community."
www.actonstreams.org

For more information on the Adopt-A-Stream Program please contact us by phone, email or read more on our website.

Rachel Calabro
Adopt-A-Stream Program Coordinator
617-626-1549

Amy Singler
Stream Team Organizer
617-626-1548

Carrie Banks
Western Stream Team Organizer

The Boston Globe ACTON

Signs create streams of consciousness

By Sally Heaney, Globe Correspondent | September 23, 2004

Ask Bettina Abe of Acton why she sometimes puts her rubber boat or kayak into a local brook and paddles off for an afternoon of suburban adventure, and she quotes Rat talking to Mole in "The Wind in the Willows" by Kenneth Grahame: "There is nothing -- absolute nothing -- half so much worth doing as simply messing about in boats."

Abe is fascinated by Acton's streams and brooks and loves paddling carefully through backyards and conservation lands to find out where they go. But most residents are barely aware of the town's network of small waterways hidden by foliage and buildings, crossed by bridges, and channeled into culverts.

Abe was among some 20 people who attended an event last Friday that marked a milestone for the Acton Stream Awareness Project, an effort to bring the streams to the forefront of people's minds.

The event was the dedication of new stream name signs placed at 13 locations along well-traveled roads near brooks in Acton. The event was held along Newtown Road near the Conant Brook sign, not far from Acton center. The sign features a stream-like swath of blue cutting through a green background and the words "Protect Conant Brook Our Water."

"The goal of the project is to raise awareness of the streams, that we have this whole network of streams in Acton, what great resources they are, and how we should protect them," Mary Michelman, coordinator of the Acton Stream Teams and project leader, said in an interview.

The signs introduce people to the two major streams in town, Fort Pond Brook and Nashoba Brook, and several of their tributaries: Butter Brook, Coles Brook, Conant Brook, Grassy Pond Brook, Nagog Brook, and Pratt's Brook. There is also a sign for the Assabet River, where all this water is headed.

"This is making it easy for people and obvious," Michelman said. "They don't need to make any extra effort to find out the names of the streams."

Fort Pond Brook meanders across town from west to east, and she hopes that motorists noticing the four different signs for Fort Pond Brook will have their curiosity whetted about its route.

"I've had people remark to me, 'I saw a sign at Central Street, School Street, and Jones Field,' " Michelman said. "It lets people realize that water travels through town, whereas otherwise it might not occur to them."

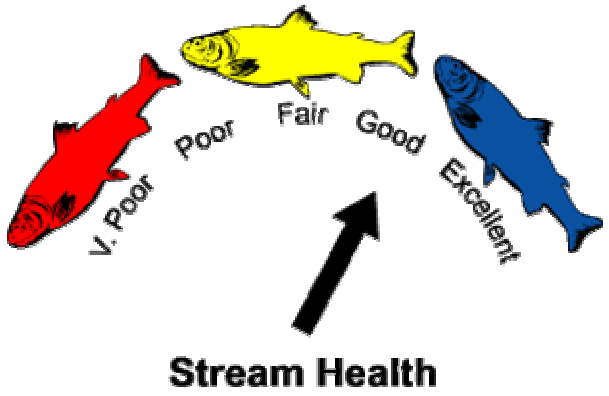
Another project component is a brochure with a map that highlights the streams and shows the sign locations. The brochure also gives Acton stream facts and tips for protecting the water and directs readers to the Acton Stream Team's website at www.actonstreams.org for more information. The brochures are available at the library and Town Hall and will be distributed at public events.

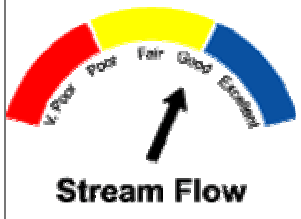
Illustrations for the brochure were drawn by Tom Tidman, director of natural resources for the town, which supports the project. The project received a grant from the Riverways Program of the Massachusetts Department of Fish and Game, as well as support from the Acton Water District, several nonprofit organizations, and corporate and private donors.

PP-7 Nashoba Brook Water Quality/ Stream Flow

current conditions on:

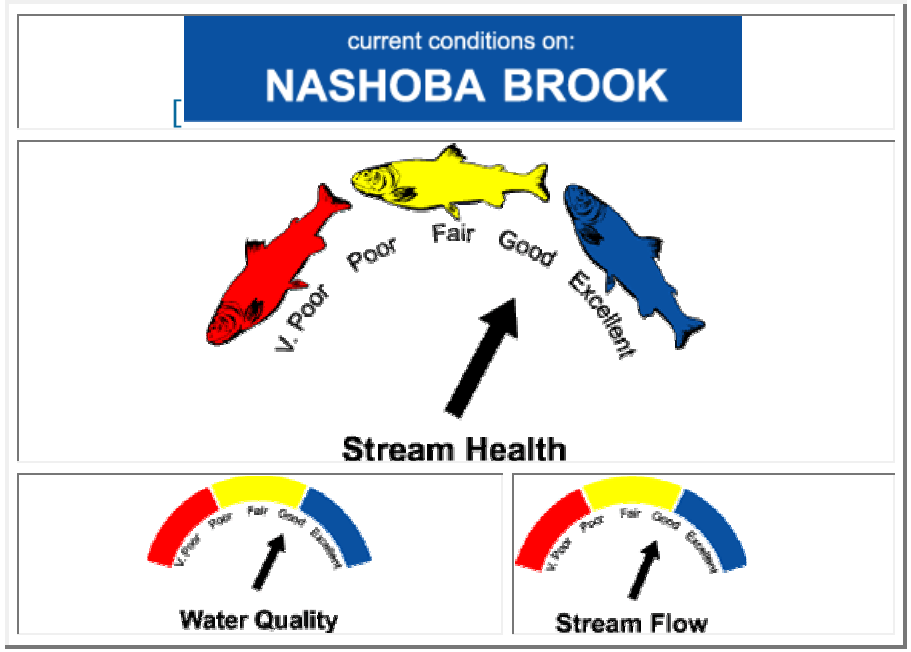
NASHOBA BROOK





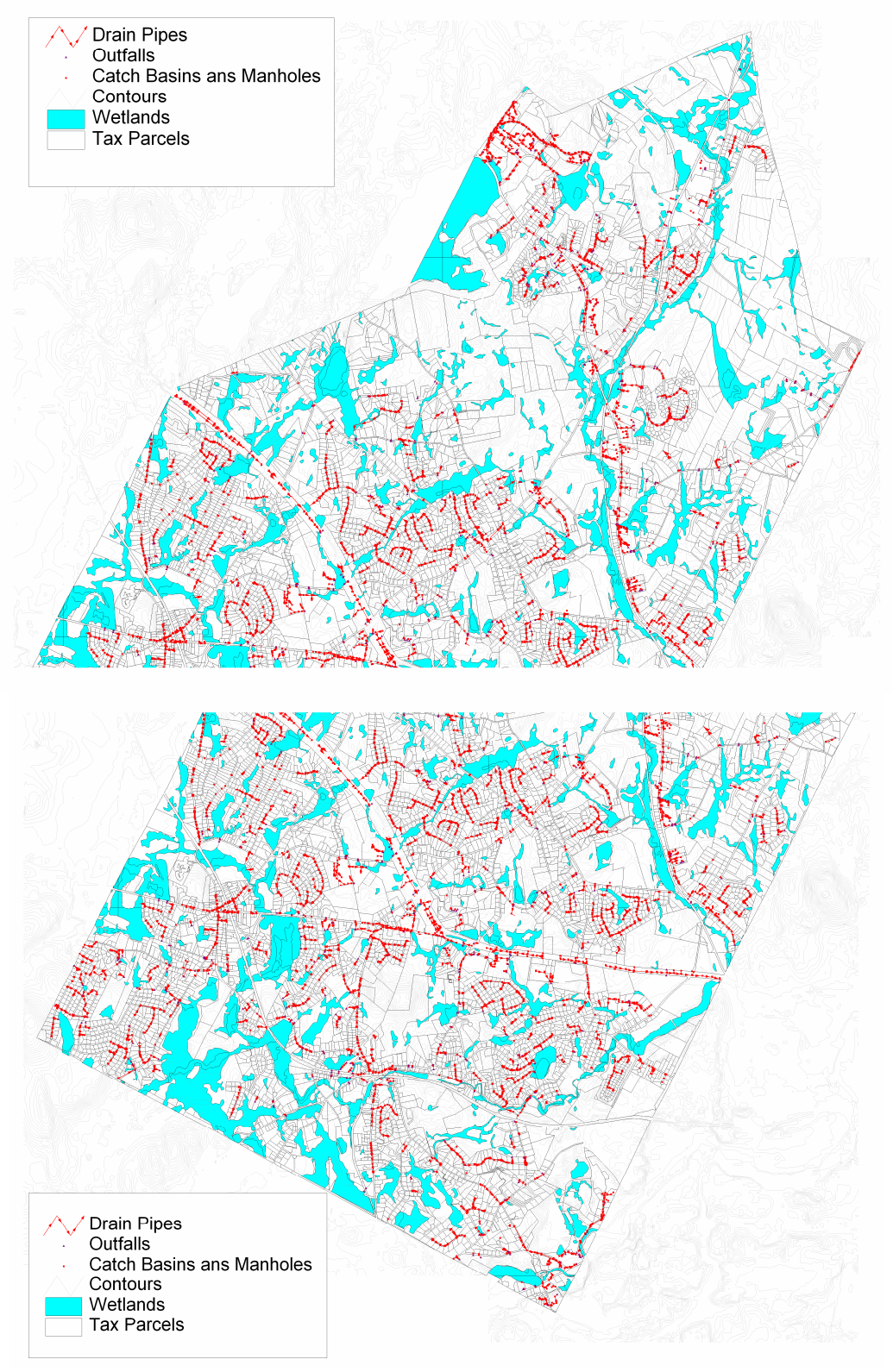
Assabet River StreamWatch

- OAR Home
- StreamWatch Home
- About StreamWatch
- Assabet Tributaries
- Fish
- Water
- How to Protect a Fish
- Streams
  - River Meadow Brook
  - Nashoba Brook
  - Elizabeth Brook
  - Danforth Brook
  - Fort Meadow Brook
  - North Brook
  - Cold Harbor Brook
  - Hop Brook
  - Assabet Headwaters
  - Assabet River Main
  - Concord River Main
- How the Index is Calculated
- Site Map
- Links
- Glossary of Terms



Index readings for the week ending 10.2.04.
Link to the Nashoba datasheet for compete data for 2004 or 2003.

ID-1 Drainage Map



ID-2 Develop/ Implement Illicit Discharge Controls
Proposed Board of Health Regulations

Regulation 11-14 Inspections of Onsite Wastewater Systems

11-14.1 No person shall conduct an inspection of an onsite wastewater system pursuant to 310 CMR 15.301 unless:

(a) He/she is approved as a System Inspector as defined in 310 CMR 15.340 and

(b) He/she is registered as an Onsite Wastewater System Inspector with the Acton Board of Health.

11-14.2 The Inspector shall complete every applicable section of the "Title 5 Official Inspection Form — Not for Voluntary Assessments. Subsurface Sewage Disposal System Form." supplied by the Massachusetts Department of Environmental Protection.

11-14.2.1 Attached with the official inspection form, the Inspector shall provide a sketch diagram showing the vertical separation distance between the bottom of the soil absorption system and the groundwater table and the horizontal ties to each system component from permanent features adjacent to the system.

11-14.3 The Acton Board of Health may revoke or suspend the registration and/or listing of an Onsite Wastewater System Inspector after opportunity for a hearing is conducted pursuant to MGL c. 30A and after the Board of Health determines that the Inspector has:

(a) falsified an inspection report and/or
(b) fraudulently altered an inspection report and/or
(c) failed to properly inspect a system as required in 310 CMR 15.302 and/or
(d) failed to meet the provisions contained within this re2ulation

11-14.4 The Board of Health shall recommend fees for the annual registration of Inspectors and for the administrative processing of all Inspection Report Forms to the Board of Selectmen.

Proposed Changes to Article 2

Current regulation:

Regulation 2.8 The owner of any house or building, or part thereof which is rented, leased, let or hired out to be occupied, or is occupied or intended, arranged or designed to be occupied as the home or residence of more than two families living independently of each other and having the common right in the halls, stairways, yard, cellar, sinks, water closets or privies, or any of them, and every lessee of the whole or of two or more tenements in any such house or building shall annually during the month of April file, in the office of the Town Clerk, a notice containing his name and address and also description of the property, by street number or otherwise as the case may be, in such manner as will enable the Board of Health and Building Inspector easily to find the same; and also the number of apartments in each house, the number of rooms in each apartment, and the number of families occupying the apartments. The notice shall contain the name and address of some agent for the house, for the purpose of receiving service of process, and notice to and service of process upon such agent shall bind the principal.

Proposed Regulation

Regulation 2.8 The owner of any house or building, or part thereof which is rented, leased, let or hired out to be occupied, or is occupied or intended, arranged or designed to be occupied as the home or residence of more than two families living independently of each other and having the common right in the halls, stairways, yard, cellar, sinks, water closets or privies, or any of them, and every lessee of the whole or of two or more tenements in any such house or building shall annually during the month of April file, in the office of the Town Clerk, a notice containing his name and address and also description of the property, by street number or otherwise as the case may be, in such manner as will enable the Board of Health and Building Inspector easily to find the same; and also the number of apartments in each house, the number of rooms in each apartment, and the number of families occupying the apartments. The notice shall contain the name and address of some agent for the house, for the purpose of receiving service of process, and notice to and service of process upon such agent shall bind the principal.

2.8-1 The owner of any motel, hotel, or other facility leased, let, or hired out to be occupied for temporary housing shall, on an annual basis apply for a Motel Permit from the Board of Health.

ARTICLE 19

DESIGN, OPERATION, AND MAINTENANCE OF

WASTEWATER TREATMENT FACILITIES

19-1.00 PERMIT REQUIREMENTS

19-1.10 DISPOSAL WORKS CONSTRUCTION PERMITS

No system or facility to be used for treating, neutralizing, stabilizing or disposing of wastewater from homes, public buildings, commercial or industrial buildings, or any types of establishments shall be located, constructed, installed, operated, altered, or repaired until a Disposal Works Construction Permit for such shall have been issued by the Board of Health. No construction of any building or facility which relies upon such wastewater system or facility shall be allowed until a Disposal Works Construction Permit has been issued by the Board of Health.

Such system or facility as regulated herein shall include, but not be restricted to, sewers serving such facility, Wastewater Pumping Stations, Wastewater Treatment Works, All Wastewater Treatment Operations, Sludge Treatment And Management, Disinfection, Advanced Waste Treatment, Subsurface Disposal And Land Treatment, Wastewater Recycling And Re-Use.

Such system or facility as regulated herein shall be referenced as Wastewater Treatment Plant (WWTP).

Notwithstanding the requirements of these regulations, all conventional and onsite wastewater disposal systems with a design flow less than 10,000 gallons per day, and those that employ Innovative/Alternative Technologies as defined in 310 CMR 15.281 and 310 CMR 15.282 that are in compliance with 310 CMR 15.000 are exempted.

19-1.20 CERTIFICATE OF COMPLIANCE

No WWTP as permitted here shall be placed in service, nor shall new buildings or facilities or additions to existing buildings or facilities which rely upon such WWTP be occupied or used until the Board of Health issues a Certificate of Compliance.

19-1.30 OPERATIONS PERMIT

All existing WWTPs shall be required to have an Operations Permit. All newly constructed WWTPs shall be required to receive an Operations Permit before the Certificate of Compliance will be issued by the Board of Health.

To receive an Operations Permit, the owner of the WWTP shall present the following information to the Board of Health:

(1) The name, address, phone number and emergency contact information for the Owner, Chief Operator and Back-up Operator.

(2) A copy of the current operations and maintenance contract, if applicable, between the owner and the operator of the WWTP.

(3) A copy of the current Groundwater Discharge Permit, issued by the Massachusetts Department of Environmental Protection.

(4) Any other relevant information required by the Board of Health or its Agent.

Operations Permits will be issued on a yearly basis and the above listed information must be submitted each calendar year along with the appropriate fee in order to receive the permit.

19-1.40 FEES

The fees for Operations and Construction Permits shall be recommended by the Acton Board of Health and approved by the Acton Board of Selectmen.

19-2.00 SUBMITTALS

19-2.10 APPLICATIONS, REPORTS, PLANS, DATA, DOCUMENTS

A copy of all applications, reports, plans, specifications, data and supporting documents required by these regulations and by the regulations of any other agency in connection with the approval or operation and maintenance of the subject facility shall be submitted to the Board of Health. In the case of requests for a Board of Health action, such materials shall be submitted a minimum of 90 days prior to the date upon which an action by the Board of Health is desired. In the case of submittals to other agencies, all material shall be submitted to the Board of Health at the time of submittal to that agency. A Board of Health Disposal Works Construction Permit, as required under this Article, will not be issued prior to approval by the Massachusetts Department of Environmental Protection. Other submittal shall be made in accordance with schedules as specifically designated by the Board of Health.

19-3.00 OTHER REGULATIONS AND GUIDELINES

19-3.10 FEDERAL, STATE AND LOCAL REGULATIONS

The applicant for any WWTP shall comply with all applicable, Federal, State and Town regulations as existing and may be amended from time to time. All data, reports, and plans designated by those regulations shall be submitted to the Board of Health. All data required by these regulations shall be promptly submitted to the Board of Health at the time of submittal to the governing entities.

19-3.20 STANDARDS FOR DESIGN, OPERATIONS AND MAINTENANCE

These regulations herein do not and are not intended to cover all aspects of engineering design, operation and maintenance of WWTPs. Rather they outline the specific Board of Health interests and policies that may not be adequately reflected in other existing regulations, policies and manuals.

Existing regulations promulgated by the Commonwealth of Massachusetts and the United States Government shall serve as minimum standards. All applications shall meet the minimum standards along with the regulations contained herein

The application shall specifically follow the most recent published edition of the below listed regulations and guidelines which address the various aspects for system and facilities considered herein, and are incorporated as part of these regulations by reference where applicable.

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

- Operation And Maintenance And Pretreatment Standards For Wastewater Treatment Works And Indirect Dischargers (314 CMR 1200)
- Title 5-—State Environmental Code *(310* CMR 15.000)
- Ground Water Quality Standards (314 CMR 6.00)
- Ground Water Discharge Permit Program (314 CMR 5.00)

NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION (NEIWPCC)

- Guidelines for the Design of Wastewater Treatment Works 1998 Edition. TR-16

WATER ENVIRONMENT FEDERATION (WEF)

- Manual of' Practice No.8— Wastewater Treatment Plant Design
- Manual of Practice No. 9— Sewer Design and Construction
(same as American Society of Civil Engineers Manual and Reports on Engineering Practice No. 37).

GREAT LAKES — UPPER MISSISSIPPI RIVER BOARD OF STATE SANITARY ENGINEERS

- Recommended Standards for Sewage Works

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

- Appropriate guidance documents for each individual treatment technology published by the EPA Office of Wastewatcr Management

For situations not covered by these regulations and guidelines, good engineering practice, as determined by the Board of Health, shall govern.

While it is recognized that certain modifications or exceptions may be necessary where justified in unusual situations, any such modifications or exceptions shall only be provided by application for variance to the Board of Health. Any variances to these regulations issued by the Board of l-Iealth shall comply with the provisions outlined in the State Environmental Code, Title 5 and any other applicable local, state and/or Federal regulations.

19-4.00 GENERAL PROJECT PLANNING REQUIREMENTS

Certain basic principals shall be considered early in the planning and design process in order to ensure that the WWTP development process will meet all **requirements.**

19-4.10 ENVIRONMENTAL COMPATIBILITY

The plans for the proposed system or facility shall take into account all aspects of **public health and environmental quality protection. Efforts shall be taken to** preserve water supply, private property, wetlands, wildlife habitat, recreational sites, and natural beauty.

An Environmental Impact Report must be prepared which details current conditions and specifies changes that will occur due to the discharge created by the Wastewater Treatment Facility.

The project proposed shall include evidence that the wastewater system or facility will result in the least adverse impact on the public health or the environment as compared with other possible wastewater management alternatives for the project.

19-4.20 GENERAL DISCHARGE AND TREATMENT REQUIREMENTS

No discharge from the WWTP shall result in degradation of ground or surface waters in a manner inconsistent with the proposed use of those groundwater surface waters. There shall be compliance with all applicable water quality standards. The existing characteristics of the receiving waters must be considered to ensure compliance. There shall be no discharge into any wetland, stagnant **waters, lakes or streams.**

19-4.30 HYDROGEOLOGICAL INVESTIGATION

The applicant shall submit a hydrogeological survey report prepared by a qualified geotechnical engineer or hydrogeologist, to show the impact of the subsurface discharge of the WWTP on ground water. The report shall include a determination of the flow direction, contaminant levels, extent of wastewater **discharge** plume, ground and surface waters affected, and any interaction with water supply, public or private. This analysis shall be performed for the WWTP design plan submittal and also for any other wastewater treatment or disposal **strategy for the project to be served.**

19-4.40 WETLANDS AND FLOOD PLAINS

No component of the treatment plant, except for the underground piping, shall be **constructed less than** two (2) feet above the high water level in any area subject **to flooding. Such distances are considered** "minimum" and may be increased by the Board of Health if site specific conditions warrant.

19-4.50 GENERAL SITING AND DESIGN REQUIREMENTS

WWTP design shall include attenuation of odor or noise problems, and shall satisfactorily address the general aesthetic appearance, to both protect the operator and to satisfy neighborhood environmental requirements.

19-4.51 DISTANCES

No portion of the WWTP shall be located less than the following distances stated to the components listed as follows:

MINIMUM ACCEPTABLE SEPARATION DISTANCES IN FEET

Plant	**Pumping**	**Subsurface**	**Leaching**	**Sewer**
COMPONENT Buildings	**Station**	**Tank**	**Area**	**Force Main**
Well*v 100	**100**	**100**	**400**	**50**
Water Supply Line	10	10	25	0
Dwelling Unit **100**	**50**	**50**	**100**	----
Subsurface Drain ----	25	25	50*	5
Property Boundary 150	50	50	100	10
Surface Water *~ 100	25	100	200	50
Wetland ~v 100	25	100	200	50
Flood Plain Y 100				

* This distance may be required to be greater if the hydrogeological evaluation indicates that contamination will occur at the stated distance.
This distance maybe greater to come into compliance with Article 16: Minimum Requirements for Activities within the Groundwater Protection Zones.

19-4.60 ULTIMATE DISPOSAL OF SLUDGE AND SOLIDS

Provision for final or ultimate disposal of sludge and solids shall be clearly indicated and established. The estimated quantity must be stated. If sludge and solids are to be disposed of off-site, the final destination must be established prior to the issuance of any permit. The applicant must demonstrate to the satisfaction of the Board of Health, that the destination for the sludge and solids is in **compliance with all applicable federal, state and local regulations and also that it** will reliably be available for such purpose -for the length of time that its use is required for the WWTP.

If disposal is to be on-site, it must comply with the terms of the section above **"General Discharge and Treatment Requirements".**

19-4.70 TREATMENT PLANT RELIABILITY

The WWTP shall be planned and designed so as to provide for maximum **reliability at** all times. The facility shall be capable of operating satisfactorily **during power failures, flooding, peak loads, equipment failure, and maintenance** shut downs. Such reliability shall be obtained through the use of various design techniques.

Multiple units or dual compartments with unit drains shall be provided for all processes, including disinfection facility, so that draining, cleaning, repairing or replacing and other maintenance can be provided without omitting any treatment processes.

19-4.80 DISINFECTION

Disinfection of the WWTP effluent by ultraviolet irradiation or ozonation shall be required.

19-5.00 SUBSURFACE DISPOSAL FACILITIES

19-5.10 GROUND WATER

The bottom interface of any subsurface disposal or leaching -facilities shall be located a minimum of five (5) feet above the Maximum Elevation of the Ground water or Saturated Soil Zone. This elevation shall include consideration of the mounding effect of the ground water caused by the discharge of the WWTP effluent. Such analysis shall be calculated using generally acceptable analytical or numerical methods. When geologic conditions permit, the "Hantush" formula and procedure may be used. When the assumption of that procedure cannot be met to derive reliable result, it shall be required to utilize such method as finite difference equations for ground water flow and elevation.

19-5.20 DISTANCE TO BEDROCK

The bottom interface of any subsurface disposal or leaching facilities shall be located a minimum of ten (10) feet above the elevation of bedrock or impervious soil layer. Impervious soil shall be defined as having a percolation rate of greater than 20 minutes per inch.

19-5.30 THICKNESS OF PERMEABLE SOIL

A depth of at least five *(5)* feet of naturally occurring permeable soil shall be maintained below the bottom of the leaching area. To be considered permeable, the soil shall have a percolation rate less than or equal to 20 minutes per inch.

19-6.00 SEWERS

The lateral sewer system serving the WWTP shall be of a design and construction in accordance with Water Environment Federation Manual of Practice #9. Adequate capacity shall be provided for peak flow rates and shall provide for a cleansing velocity of at least two (2) feet per second at 75 percent of the estimated peak discharge. For low' service connection areas, peak flow rate shall be calculated by the fixture unit method as described in MOP #9. 'The minimum pipe size allowed shall be six (6) inches in diameter.

19-7.00 GROUNDWATER MONITORING

19-7.10 INSTALLATION

The permittee shall install, at a minimum, groundwater monitoring wells in accordance with the following:

- One up-gradient monitoring well
- Two down-gradient monitoring wells
- One monitoring well, for ground water level only near the center of the leaching works.

Screen depths for the wells shall be set at elevations such that at least two screen depths will yield samples at time of seasonal low ground water (e.g. September sampling period).

Such locations shall be as approved by the Board of Health and as indicated appropriate from the results of the hydrogeological investigation. Monitoring wells shall be installed and in operation prior to the issuance of the Certificate of Compliance and Operations Permit.

19-7.20 GROUNDWATER ELEVATION

The permittee shall determine and provide the Board of Health with elevations of the water table to the nearest one-hundredth of a foot in all monitoring wells on a monthly basis during official high ground water season (as defined in Article 11).

19-8.00 EFFLUENT LIMITS AND TESTING REQUIREMENTS

Effluent limitations shall be as required by the DEP regulations for Class I and Class II ground waters. All ground waters are considered to be in this classification unless proved to be otherwise following procedure set forth by the DEP.

19-8.10 TREATMENT PLANT INFLUENT

The influent to the treatment plant shall at a minimum he sampled and tested biweekly for 5-day Biochemical Oxygen Demand (B.O.D) and Total Suspended Solids (T.S.S.).

19-8.11 TREATMENT PLANT EFFLUENT

The effluent from the treatment plant shall at a minimum be sampled and tested as follows:

DAILY	Flow (gallons discharged) pH
BIWEEKLY	5-day Biochemical Oxygen Demand (B.O.D) Total Suspended Solids (TSS.) Fecal Coliform Bacteria

19-9.30 OPERATIONAL GUARANTEE

Prior to the issuance of the Certificate of compliance and Operations Permit, the permittee shall provide security in an amount specified by the Board of Health to guarantee the operation of the WWTP for a period of at least one-year. The security shall provide for salaries, operational costs, and cost for immediate replacement, if necessary, of a major unit operation of the plant, or in the event of plant failure to operate, an amount sufficient to cover the costs of hauling 1 00% of the waste water to another facility for disposal for a one year period.

19-10.00 **SEVERABILITY**

If any part or portions of these regulations w-ere adjudicated as invalid, the adjudication shall apply only to the material so adjudged, and the remaining Rules and Regulations shall be deemed valid of full force and effect.

19-11.00 VARIANCES

19-11.1 VARIANCES

The Board of Health may vary the application of any of the provisions of this Article with respect to a particular case when, in its opinion:

(1) The enforcement therefore would do manifest injustice; and

(2) The applicant has proved that the same degree of environmental protection required under this article can be achieved without strict application of the particular provision.

Proposed Article 20

Design, Operation and Maintenance of Small Wastewater Treatment

Systems Utilizing Innovative/Alternative Technology

20-1.00 APPLICABILITY

These regulations will apply to all wastewater treatment systems that utilize Innovative/Alternative Technology as defined in 310 CMR 15.281 - 15.282 and approved under 310 CMR 15.284 — 15.288

20-2.00 PERMIT REQUIREMENTS

20-2.1 DISPOSAL WORKS CONSTRUCTION PERMITS

No system to be used for treating and/or disposing of wastewater from homes, public buildings, commercial or industrial buildings, or any types of establishments shall be located, constructed, installed, operated, altered, or repaired until a Disposal Works Construction Permit for such shall have been issued by the Board of Health. No construction of any building or facility which will rely upon such wastewater system shall be allowed until a Disposal Works Construction Permit has been issued by the Board of Health.

20-2.2 CERTIFICATE OF COMPLIANCE

No system as permitted here shall be placed in service, nor shall new buildings or facilities or additions to existing buildings or -facilities which rely upon such a system be occupied or used until the Board of Health issues a Certificate of Compliance.

20-2.3 DISCHARGE OPERATIONS PERMIT

All existing systems utilizing Innovative/Alternative Technology shall be required to have a Discharge Operations Permit, Said permit to be obtained no later than 180 days after the date of the adoption of these regulations. All newly constructed systems utilizing Innovative/Alternative Technology shall be required to receive a Discharge Operations Permit before the Certificate of Compliance will be issued by the Board of Health.

To receive a Discharge Operations Permit, the owner of the system utilizing Innovative/Alternative Technology shall present the following information to the Board of Health:

(1) The name, address, phone number and emergency contact information for the Owner and Operator.
(2) A copy of the current operations and maintenance contract between the owner and the operator of the system.
(3) Any other relevant information required by the Board of Health or its Agent.

Discharge Operations Permits will be issued on a yearly basis and the above listed information must be submitted each calendar year along with the appropriate fee in order to receive the permit.

20-2.4 FEES

The fees for a Discharge Operations Permit shall be recommended by the Acton Board of Health and approved by the Acton Board of Selectmen.

20-2.5 SAMPLING REQUIREMENTS

20-2.5.1 Sampling Intervals

All Discharge Operations permits for systems permitted after the adoption of these regulations shall have a required effluent sampling and reporting requirement.

20-2.5.1.1 Existing systems sampling once per year

For existing systems with a current one sample per year interval, that interval shall remain in effect until such time that the Massachusetts Department of Environmental Protection increases the number of samples that must be collected and analyzed each year. No further reduction in the number of samples per year below one (1) will be permitted.

20-2.5.1.2 Existing systems sampling more than once per year

For existing systems with a current sampling interval of more than once per year, that interval shall remain in effect until such time that both the Department of Environmental Protection and the Acton Board of Health both reduce the number of samples that must be collected and analyzed within any one calendar year.

20-2.5.1.3 New systems with a design -flow less than 2000 gpd

For all systems installed and/or permitted after the adoption of these regulations, with a design flow of less than 2000 gallons per day, sampling and reporting for the required parameters shall be quarterly until such time that both the Massachusetts Department of Environmental Protection and the Acton Board of Health approve a reduction in the number of samples per year.

20-2.5.1.4 New systems with a design flow greater than or equal to 2000 gpd

For those systems with a design flow 2000 gallons per day or greater, but less than 10,000 gallons per day, the sampling interval shall be monthly until such time that both the Massachusetts Department of Environmental Protection and the Acton Board of Health approve a reduction in the number of samples per year. Both influent and effluent shall be sampled.

20-2.5.1.5 Sample analysis

Any required sample analysis shall be conducted by a U.S. EPA or Commonwealth of Massachusetts approved testing laboratory.

20-2.5.2 Sampling Parameters

At a minimum effluent from all systems, existing and new, shall, at a minimum, be sampled for the following:

- BOD_5
- Total Suspended Solids
- PH

All systems installed within Aquifer Zones 1, 2 and 3 (as defined in Article 16), or systems within 100 feet of a Bordering Vegetated Wetland, brook, watercourse or other surface water feature (Any land area or surface area so defined by the Massachusetts Wetland Protection Act, MGL, Ch. 131, s. 40 and/or the Town of Acton Wetlands Protection Bylaw.) shall, at a minimum also be sampled for:

- Total Nitrogen

Additional parameters may be added to the sampling regimen as directed by the Board of Health. Any new sampling parameters for existing systems shall be in effect for the next set of samples after the date of adoption of these regulations.

20-2.5.3 Level of Treatment

Each newly installed system shall be expected to meet a level of treatment equivalent to the Board of Health definition of secondary treatment. Certain systems may be required by the Board of Health to meet a level of treatment are defined as follows:

For systems serving Single Family Residential Dwellings, non compliance shall be defined as:

- Two successive non-compliant samples for any of the parameters required in the Discharge Operations Permit after a ninety (90) day startup period

Any instance o-f non-compliance, as defined above, with one or more of the limits of the required parameters shall necessitate, at a minimum:

- Resampling for the non-compliant parameter(s) within thirty (30) days.

If the system is found to be in continued non-compliance after the initial resampling, the system must be sampled again within seven (7) days and every seven (7) days hence until two consecutive samples demonstrate full

Upon on any instance of non-compliance with treatment standards, the Board of Health or its Agent shall have the authority to place additional conditions on the system up to and including the replacement of the system with one that is fully compliant with 310 CMR 15.000 and Acton Article 11 and 16, including a tight tank system.

20-2.6 OPERATION REQUIREMENTS

The operator or operators named in the Operation and Maintenance Agreement must Massachusetts Certified Operator(s) as required by 257 CMR 2.00, which will operate and monitor the System. For all systems with a design flow less than 5000 gallons per day, the operator must maintain the System at least every three months and anytime there is an alarm event. For all systems with a design flow greater than or equal to 5000 gallons per day, the operator shall maintain the System at least every month and anytime there is an alarm event.

20-3.00 SUBMITTALS

20-3.1 APPLICATIONS, REPORTS, PLANS, DATA, DOCUMENTS

A copy of all applications, reports, plans, specifications, data and supporting documents required by these regulations and by the regulations of any other agency in connection with the approval or operation and maintenance of the subject facility shall be submitted to the Board of Health. In the case of requests for a Board of Health action, such materials shall be submitted a minimum of 45 days prior to the date upon which an action by the Board of Health is desired. In the case of submittals to other agencies, all material shall be submitted to the Board of Health at the time of submittal to that agency. A Board of Health Disposal Works Construction Permit, as required under this Article, will not be issued prior to approval by the Massachusetts Department of Environmental Protection, if required. Other submittals shall be made in accordance with schedules as specifically designated by the Board of Health.

20-4.00 OTHER REGULATIONS

20-4.1 FEDERAL, STATE AND LOCAL REGULATIONS

The applicant for any system utilizing Innovative/Alternative Technology shall comply with all applicable, Federal, State and Town regulations as existing and may be amended from time to time. All data, reports, and plans designated by those regulations shall be submitted to the Board of Health. All data required by these regulations shall be promptly submitted to the Board of Health at the time of submittal to other governing entities.

20-5.00 DESIGN AND CONSTRUCTION

20-5.1 COMPLIANCE WITH OTHER REGULATIONS

Where applicable, as determined by the requirements set forth in the individual regulations, the system shall be designed and constructed in accordance with all pertinent Federal, State and Local regulations including, but not limited to:

310 CMR 15.000 (Title 5)
The most recent version of the Commonwealth of Massachusetts Department of Environmental Protection Letters of Approval for each Innovative/Alternative Technology
Acton Board of Health Regulations
Article 11
Article 16

20-5.2 SUBSURFACE DISPOSAL FACILITIES

All subsurface disposal facilities installed for small wastewatcr treatment systems utilizing Innovative/Alternative Technologies shall be designed with pressure distribution according to the current edition of guidance documents from the Massachusetts Department of Environmental Protection and the Acton Board of Health.

20-6.00 OPERATION AND MAINTENANCE

20-6.1 CONTRACT REQUIREMENTS

Each system utilizing Innovative/Alternative Technology shall be under an operations and maintenance contract with a Certified Wastewater Treatment Plant Operator of the appropriate grade necessary to operate the system. The contract shall meet all requirements set forth in 310 CMR 15.287 and the most recent version of the appropriate technology approval letter issued by the Massachusetts Department of Environmental Protection.

20-7.00 SEVERABILITY

If any part or portions of these regulations were adjudicated as invalid, the adjudication shall apply only to the material so adjudged, and the remaining Rules and Regulations shall be deemed valid of full force and effect.

20-8.00 VARIANCES

20-8.1 VARIANCES

The Board of Health may vary the application of any of the provisions of this Article with respect to a particular case when, in its opinion:

(1) The enforcement therefore would do manifest injustice; and

(2) The applicant has proved that the same degree of environmental protection required under this article can be achieved without strict application of the particular provision.

ID-3 Watershed Health Monitoring and Management Plan

ACTON WATERSHED HEALTH MONITORING AND MANAGEMENT PLAN
ACTON, MA

COASTAL POLLUTANT REMEDIATION "PLUS" PROGRAM - FY '03

WOODARD & CURRAN
Engineering • Science • Operations
35 New England Business Center, Suite 180
Andover, MA 01810
Tel: 978.557.8150
January 2003

WOODARD & CURRAN
Engineering • Science • Operations

CORPORATE OFFICES: Maine, Massachusetts, New Hampshire, Connecticut, Illinois, Florida
Operational offices throughout the U.S.

January 10, 2003

Mr. Bruce Carlisle
Coastal NPS Program Coordinator
Massachusetts Office of Coastal Zone Management
251 Causeway Street, Suite 900
Boston, MA 02114

RE: Massachusetts Coastal NPS Pollution Control Grants

Dear Mr. Carlisle:

On behalf of the Town of Acton, Woodard & Curran is submitting the enclosed application to be considered for funds under the "CPR Plus" program. We believe the proposed project "Watershed Health Monitoring and Management Plan" will provide cost-effective and transferable tools to improve NPS control and management.

We are providing seven (7) copies of the application and all required forms on Vanguard Recycled Plus™ paper. Should you have any questions or require any further information, please call me directly.

Very truly yours,

WODARD & CURRAN INC.

Robert J. Rafferty, P.E.
Project Manager

RJR/rjr

Enclosure

cc: Doug Halley, Health Director
Brent Reager, Acton Board of Health
Helen Priola, P.E., Woodard & Curran

35 New England Business Center, Suite 180 ▪ Andover, Massachusetts 01810
978-557-8150 ▪ 866-703-6271 ▪ 978-557-7948 (Fax) ▪ www.woodardcurran.com

APPLICATION
COASTAL POLLUTANT REMEDIATION PROGRAM – FY'03

Cover Sheet

Name of Organization: Town of Acton, Massachusetts

Organization Contact: Brent Reagor, Health Agent, Board of Health

Phone: 978-246-9634

Email: breagor@town.acton.ma.us

Organization Address: Town Hall
Board of Health
472 Main Street
Acton, MA 01720

Project Title: Acton Watershed Health Monitoring and Management Plan

Amount Requested: $24,987

Match Amount: $8,649

Total Project Cost: $33,636

Project Summary (briefly describe the proposed project in one or two short paragraphs):

Please refer to page iii entitled Project Summary in application

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1. NONPOINT SOURCES OF POLLUTION AND WATERS OF CONCERN

Acton's surface waters contain **pathogens** that contribute to the contamination of local streams, ponds, and rivers. This contamination could originate from a variety of sources. Through previous studies, several point sources have been eliminated. This project seeks to focus on the potential non-point sources of contamination. The remaining contributors to a high **fecal coliform** count could include birds, water fowl, failing septic systems, domestic animals, and/or natural animal populations such as beavers. After ten years of consistent environmental sampling and analysis, the contamination problem persists while the sources of contamination remain to be identified.

Acton is in the Sudbury-Assabet-Concord Drainage (SuAsCo) Basin. A town locus map and the watershed delineation map are provided in Appendix A. The sampling location map is shown in Appendix B.

3. PROPOSED PROJECT

3.1 Project Description

This project will address a general area of NPS control as defined in the RFR, namely the development of transferable tools to improve NPS control and management. The overall goal of the project is to develop a multi-faceted approach to monitor and manage the Town of Acton's Watershed Health by incorporating tools initially developed under other environmental programs such as the Comprehensive Water Resource Management Plan (CWRMP).

Specific goals for the Watershed Health Monitoring and Management Plan are to:

- Develop a transferable model for assessing watershed health that can be implemented in any community with GIS-based technology;
- Develop a feasible, practical and cost-effective program for monitoring of water quality, and
- Provide a diagnostic methodology for investigation of NPS contamination.

This project will address two of the three FY03 priority issue areas by:

- Developing a monitoring methodology that will improve management of septic systems through identification of substandard or failing systems contributing to degraded water quality; and
- Directly addressing known and documented bacteriological NPS problems, and providing diagnostic methods as a specific step towards implementing actual NPS control efforts.

The Acton Watershed Health Monitoring and Management Program will lead to the identification of source(s) of fecal coliform contaminating Fort Pond Brook and Nashoba Brook, either human or animal, through the continued use of surface water sampling program. With continuing fecal coliform sampling, adding nutrient sampling and linking GIS data bases together, a methodology to identifying the sources of contamination will be developed.

3.2 Scope of Work

The scope of work for this project is comprised of two phases to be conducted in 2003. The long term goal of implementing this comprehensive monitoring program is to prepare management plans for each impaired or severely impaired micro-watershed that was investigated. The management plans will address individual impairment issues within that specific micro-watershed and suggest ideas to further improve or maintain water quality. These micro-watershed assessments make it possible to target action plans to solve overall watershed management issues.

Investigation techniques include determining possible sources of contamination, monitoring nutrient pollution and monitoring physical and biological conditions.

3.2.1 Phase 1 – Watershed Organization

The Town of Acton is can be divided into two major (or macro) watersheds, (1) Nashoba Brook, and (2) Fort Pond Brook. For planning purposes, the Town was sub-divided into 11 watershed districts (7 for Fort Pond Brook and 4 for Nashoba Brook) representing individual drainage basins. The project team will use recent upgrades to its GIS databases and GIS tools to realign each of the watershed districts.

In addition to developing the fecal coliform sampling program, a sampling methodology for nutrient pollution will be developed according to the level of impairment of the micro-watershed. A possible initial proposal is to increase the frequency and parameters of sampling as the level of impairment increases. Possible testing parameters include NO_3-N, PO_4, pH, BOD_5, TDS, turbidity and color. The final methodology is dependent upon the analysis of existing sampling data under Phase 1.

A check list of site condition information will be developed to monitor physical conditions. Biological conditions such as plant type and quantities and insect and/or wildlife activity will be considered for monitoring using a similar checklist format. Establishing typical site conditions at each monitoring point will add valuable information to the entire contamination source investigation.

3.3 Project Timeline

3.3.1 Phase 1 – Watershed Organization

Watershed Redistricting

- GIS map overlaying and watershed realignment – Complete by March 15, 2003

Analysis

- Analyze existing fecal coliform data – Complete by April 15, 2003
- Impairment classification – Complete by May 15, 2003
- Conclusion and Assessment Report – Complete by July 15, 2003

3.3.2 Phase 2 – Micro-Watershed Impairment Investigation

Program Development

- Septic system analysis – Complete by June 15, 2003
- Wildlife/animal program development – Complete by August 15, 2003
- Develop additional nutrient sampling program – Complete by September 15, 2003
- Conclusions, Assessment and Recommendations Report – Complete by December 1, 2003

5. BUDGET DETAILS

The total cost of the proposed project is $33,636. The grant funds requested and the match provided are as follows:

Amount Requested: $24,987

Total Project Cost: $33,636

Match Required: $8,649 (25% of total project cost)

5.1 Phase 1 – Watershed Organization

The itemized budget breakdown for Phase 1 is provided in Table 5.1. The Town will provide staff time for labor and report fees, which in Phase 1 is 17% of the total project cost. The Phase 1 tasks comprise a portion of the funds being requested, 49% of the total project cost.

Table 5.1
Phase 1 Itemized Budget Breakdown

Task	Cost	Description
Labor	$12,946	• GIS mapping overlay and watershed realignment • Fecal coliform data analysis • Impairment classification • Deriving new sampling points
Expenses	$150	• Travel • Mailing/Postage
Reports	$4,531	• Memo report summarizing findings, results and including generated maps
Phase 1 Total	**$16,677**	

5.2 Phase 2 – Impairment Investigation

The itemized budget breakdown for Phase 2 is provided in Table 5.2. The Town will provide staff time for labor and report costs, which in Phase 2 total 8% of the total project cost. The remaining tasks from Phase 2 are 33% of the total project cost.

6. PUBLIC SUPPORT

The Town of Acton's Board of Health has been managing the fecal coliform testing for the past 20 years. The Board of Health continues to put this type of project in high priority. The Acton Conservation Commission supports these efforts and continues to assist in sampling procedures.

This project will not only benefit the residents of the town of Acton but other surrounding towns who rely on the Assabet River and Concord River. Wild life and aquatic life will also benefit from cleaner surface waters.

The Assabet River will benefit from reduced nutrient loadings from its tributaries in Acton. The river is currently nutrient limited, particularly from phosphorus. The River has been the focal point for wastewater management programs that seek to limit the discharge of phosphorus and nitrogen to the river.